

Model appropriateness for simulation climate change and river flooding

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ABSTRACT: An important question in water resources and related subjects is how an appropriate model should look given a specific research area and objective. This question is dealt with by developing a model appropriateness procedure based on model uncertainties. The procedure has been applied to a river basin model meant to assess the impact of climate change on flooding in a large river basin to illustrate the approach. This application indicated that the procedure gives a nice indication in which direction most profit can be gained when an appropriate model should be obtained. Moreover, the results showed that a decrease of input uncertainties and uncertainties associated with the transformation of rainfall to effective rainfall were of particular importance. However, these latter results should be interpreted with caution given the uncertainties in the procedure.